

Existing Use Determination and Rationale:

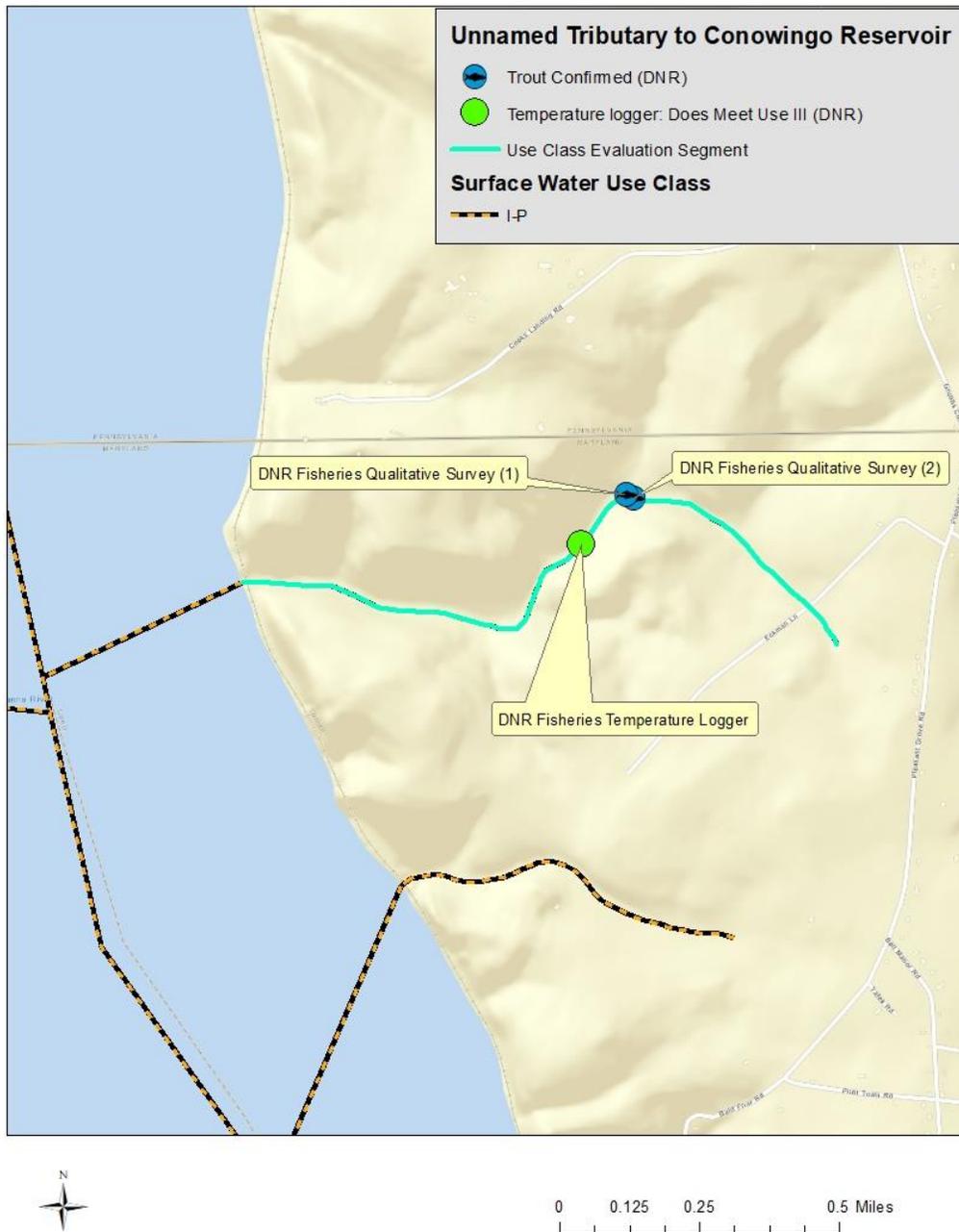
Unnamed Tributary to Conowingo Reservoir (Cecil County)

June 30, 2021

Description of Setting and Data Sources

The Conowingo Reservoir (8-digit 02120204) is located on the border of Cecil and Harford county and currently designated as a Use Class I-P waterbody. Maryland DNR Fisheries conducted surveys in an unnamed tributary to the Conowingo Reservoir located in Conowingo, MD. Maryland DNR Fisheries deployed temperature loggers in 2020 to one location of the unnamed tributary and conducted two qualitative fish surveys. The figure below shows the location of the unnamed tributary relative to the Conowingo Reservoir along with relevant sampling stations. The data from these sampling stations (Tables 1 and 2) including water temperature and species information are summarized below.

Figure 1: Unnamed Tributary to Conowingo Reservoir



Temperature Data Summary for Unnamed Tributary to Conowingo Reservoir

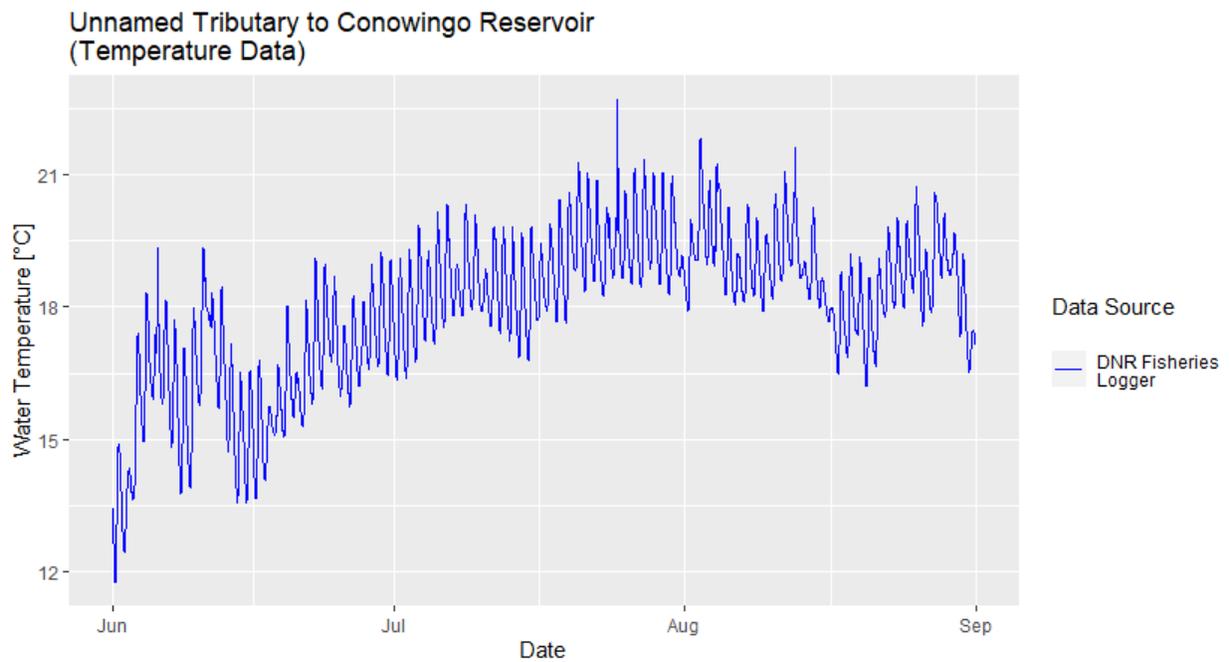
Water temperature data were collected by DNR Fisheries at one location in 2020 from this unnamed tributary. The temperature data show the tributary is achieving Use Class III temperature criteria. Summary temperature statistics are shown in Table 1 and the temperature profile is displayed in Figure 2.

Table 1. Temperature Logger Data collected in Unnamed Tributary to Conowingo Reservoir

Date	Station ID	Stream	Data Submitter	# Temp Readings	Percent>20°C	Percent>24°C	Avg Daily Mean	Daily Max
2019	DNR temperature logger	UT Conowingo Reservoir	DNR Fisheries	6624	8.8%	0%	17.98	22.71

*Water temperature logger data assessed from June to August. The “Daily Max” represents the maximum temperature from June to August.

Figure 2: Temperature profile of Unnamed Tributary to Conowingo Reservoir



Biological Data Summary for Unnamed Tributary to Conowingo Reservoir

Maryland DNR Fisheries conducted two qualitative surveys in 2020. The surveys demonstrated that this stream supports a reproducing brown trout population.

Table 2. Biological Data for the Unnamed Tributary to Conowingo Reservoir

Date	Station ID	Stream	Data Submitter	Species	Count	Maturity
2020	DNR Fisheries Qualitative Survey #1	UT Conowingo Reservoir	DNR Fisheries	Brown Trout	5	1 adult 4 YOY
2020	DNR Fisheries Qualitative Survey #2	UT Conowingo Reservoir	DNR Fisheries	Brown Trout	5	2 adult 3 YOY

YOY: Young-of-Year

DNR Fish Stocking

Bret Coakley (Fisheries Biologist, Maryland Department of Natural Resources) has stated that this tributary has not been stocked with brown trout in at least 20 years. The brown trout observed in Table 2 are of wild origin.

Existing Use Determination and Rationale for Unnamed Tributary to Conowingo Reservoir

Current Use Class: Class I-P

Existing Use Determination: This unnamed tributary, from its confluence with Conowingo Reservoir located at [39.717647°N, -76.224782°W] and all upstream waters, supports naturalized self-sustaining brown trout and has water temperatures that have a 90th percentile below 20°C, an average daily mean below 18°C, and daily max below 23°C.

Is this Existing Use Determination Consistent with the Current (March 2020) Designated Use Class? **No.** The existing use of this tributary, as described above, requires that water temperatures remain significantly colder than the water quality criterion established to protect the current use class (Class I-P) designation. As a result, the existing use of this tributary to Conowingo Reservoir requires protections to maintain the cold water temperatures currently found in this tributary and different from those afforded by the current use class designation of I-P.

Changes Proposed to the Currently Designated Use Class: As shown in Figure 3, the Department recommends that the unnamed tributary to Conowingo Reservoir be redesignated to Class III-P.

Rationale for the Existing Use Determination: The unnamed tributary to Conowingo Reservoir supports a self-sustaining brown trout population and has water temperatures that meet the Use Class III-P criteria.

